	Application No.	Applicant(s)	
Notice of Allowability	10/644,795	MORITA ET AL.	
	Examiner	**Art Unit**	
	Jeff Piziali	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *the Amendment filed 15 September 2006 and the Election filed 13 March 2007*.

2. ☒ The allowed claim(s) is/are *1, 3-6, 9, 12, 15, 18, and 21 (renumbered as claims 1-10)*.

3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☒ All   b) ☐ Some*   c) ☐ None   of the:

      1. ☒ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

    * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

    (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

        1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____ .

    (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of

    Paper No./Mail Date _____ .

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____

4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application

6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .

7. ☒ Examiner's Amendment/Comment

8. ☒ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____ .

Jeff Piziali
24 May 2007

DETAILED ACTION

EXAMINER'S AMENDMENT

1.   An examiner's amendment to the record appears below. Should the changes and/or

additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR

1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the

payment of the issue fee.

Please amend the claims as follows:

IN THE CLAIMS:

Cancel claims 7, 8, 10, 11, 13, 14, 16, 17, 19, 20, 22, and 23.

Election/Restrictions

2.   Applicants' election of Species II (i.e., claims 1, 3, 9, 15, and 21) in the reply filed on 13

March 2007 is acknowledged. Because applicants did not distinctly and specifically point out

the supposed errors in the restriction requirement, the election has been treated as an election

without traverse (MPEP § 818.03(a)).

3.   Claims 4-8, 10-14, 16-20, 22, and 23 were withdrawn (in accordance with Applicants'

election of Species II) from further consideration pursuant to 37 CFR 1.142(b) as being drawn to

nonelected species, there being no allowable generic or linking claim at the time of the Office

action mailed on 27 November 2006. Election was made **without** traverse in the reply filed on

13 March 2007.

4.   Applicants are reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

5.   **Claims 1, 3-6, 9, 12, 15, 18, and 21 are allowable.** The restriction requirement among species, as set forth in the Office action mailed on 27 November 2006, has been reconsidered in view of the allowability of claims to the elected invention pursuant to MPEP § 821.04(a). **The restriction requirement is hereby withdrawn as to any claim that requires all the limitations of an allowable claim.**

Claims 4-6, 12, and 18, directed to *a display driver circuit which drives signal electrodes of a display device based on gray-scale data, comprising a data input control circuit which controls input of the gray-scale data supplied to the first to Nth [or (M+N)th] shift register blocks; wherein the first to Nth [or (M+1)th to (M+N)th] shift register blocks are disposed in a region on a second direction side of the data input control circuit, shift a given data enable signal input to the first [or (M+1)th] shift register block and output the shifted data enable signal to a shift register block adjacent in the second direction, and hold the first to Nth [or (M+1)th to (M+N)th] gray-scale data, for which mask control is performed by the first to Nth data mask circuits, based on the shifted data enable signal, and wherein the first to Nth [or (M+1)th to (M+N)th] data mask circuits are connected in the second direction in order from the first to Nth [or (M+1)th to (M+N)th] data mask circuit and unmask the first to Nth [or (M+1)th to (M+N)th] gray-scale data in order from the first to Nth [or (M+1)th to (M+N)th] data mask*

circuit, are no longer withdrawn from consideration because the claims require all the limitations

of an allowable claim (in this case, elected independent claim 1).

However, claims 7, 8, 10, 11, 13, 14, 16, 17, 19, 20, 22, and 23, not directed to part or all

of the aforementioned subject matter, remain withdrawn from consideration because they do not

all require all the limitations of an allowable claim.

In view of the above noted withdrawal of the restriction requirement, applicants are

advised that if any claim presented in a continuation or divisional application is anticipated by, or

includes all the limitations of, a claim that is allowable in the present application, such claim may

be subject to provisional statutory and/or nonstatutory double patenting rejections over the

claims of the instant application.

Once a restriction requirement is withdrawn, the provisions of 35 U.S.C. 121 are no

longer applicable. See *In re Ziegler,* 443 F.2d 1211, 1215, 170 USPQ 129, 131-32 (CCPA 1971).

See also MPEP § 804.01.

Priority

6.   Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers

have been placed of record in the file.

Drawings

7.   The drawings were received on 15 September 2007. These drawings are acceptable.

Allowable Subject Matter

8.   Claims 1, 3-6, 9, 12, 15, 18, and 21 (renumbered as claims 1-10) are allowed.

9.   The following is an examiner's statement of reasons for allowance:

The present invention comprises a display driver circuit which drives signal electrodes of

a display device based on gray-scale data. The prior art, *Kurokawa et al (US 6,130,657 A)*

discloses a display driver circuit [Fig. 1; ICBLK] which drives signal electrodes [Fig. 1; Y] of a

display device [Fig. 5; LCD] based on gray-scale data [Fig. 1; DATA], comprising: first to

(M+N)th (M and N are positive integers) shift register blocks [Fig. 1; 301]; a data input control

circuit [Fig. 1; 307] which controls input of the gray-scale data supplied to the first to (M+N)th

shift register blocks; first to (M+N)th data mask circuits [Fig. 1; 305] which generate first to

(M+N)th gray-scale data by performing mask control for the gray-scale data supplied to the first

to (M+N)th shift register blocks and output the first to (M+N)th gray-scale data; and a signal

electrode driver circuit [Fig. 1; ICBLK] which drives the signal electrodes by using drive

voltages corresponding to the first to (M+N)th gray-scale data, the first to (M+N)th gray-scale

data being held in the first to (M+N)th shift register blocks [Fig. 1; $301_{ICBLK1-3}$], wherein the first

to Mth shift register blocks are disposed in a region on a first direction side [Fig. 1; left side] of

the data input control circuit, shift a given data enable signal input [Fig. 1; CAR1] to the first

shift register block [Fig. 1; 301_{ICBLK1}] and output the shifted data enable signal to a shift register

block [Fig. 1; 301_{ICBLK2}] adjacent in a second direction [Fig. 1; to the right] opposite to the first

direction, and hold the first to Mth gray-scale data based on the shifted data enable signal,

wherein the (M+1)th to (M+N)th shift register blocks [Fig. 1; $301_{ICBLK4-6}$] are disposed in a

region on the second direction side [Fig. 1; right side] of the data input control circuit, shift a

data enable signal input to the (M+1)th shift register block [Fig. 1; 301_{ICBLK4}] from the Mth shift

register block [Fig. 1; 301_{ICBLK3}] and output the shifted data enable signal to a shift register block

adjacent [Fig. 1; 301$_{ICBLK5}$] in the second direction [Fig. 1; to the right], and hold the (M+1)th to

(M+N)th gray-scale data based on the shifted data enable signal, wherein the first to Mth data

mask circuits [Fig. 1; 305(1-3)] are connected in the second direction in order from the first to

Mth data mask circuit and mask the first to Mth gray-scale data in order from the first to Mth

data mask circuit, and wherein the (M+1)th to (M+N)th data mask circuits [Fig. 1; 305(4-6)] are

connected in the second direction in order from the (M+1)th to (M+N)th data mask circuit and

unmask the (M+1)th to (M+N)th gray-scale data in order from the (M+1)th to (M+N)th data

mask circuit (see Column 4, Line 15 - Column 5, Line 47).

However, as argued by the applicants (on Page 16 of the 'Revised Amendment Under 37

C.F.R. 1.111' filed 15 September 2006), the prior art does not expressly teach the subject matter

of, first to Mth *[or (M+N)th]* data mask control circuits which generate first to Mth *[or*

(M+N)th] data mask control signals for performing mask control for the first to Mth *[or*

(M+N)th] gray-scale data; wherein an 'ath ($1 \leq a \leq M$; a is an integer) data mask control circuit

generates an ath data mask control signal based on a data enable signal output from an ath shift

register block and an ath data mask circuit masks an ath gray-scale data based on the ath data

mask control signal, in combination with the remaining features and subject matter of the

instantly claimed invention.

This distinct structural and operational arrangement has been incorporated into both

pending independent claims (i.e. claims 1 and 9 -- renumbered as claims 1 and 6), thereby

rendering them allowable.

Any comments considered necessary by applicants must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff Piziali whose telephone number is (571) 272-7678. The examiner can normally be reached on Monday - Friday (6:30AM - 3PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on (571) 272-7681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jeff Piziali
24 May 2007